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AMERICAN DYESTUFF REPORTER

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AMERICAN DYESTUFF REPORTER

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DYESTUFFS, COLORS and ALLIED CHEMICALS

"Circulated Everywhere Dyestuffs Are Used"

Vol. 9 New York, October 31, 1921 No. 18

THE ARMY'S TESTIMONY ON DYE PROTECTION

As Offered by Brigadier-General Amos A. Fries Before the Senate Finance Committee

WHAT U. S. Army officers, with no axes to grind and having no stake in the commercial results of the dye protection controversy, have to say on this subject should command the instant respect and attention of every thinking citizen of America. General Pershing and Secretary of War Weeks, as well as President Harding, Commander-in-Chief, have expressed themselves briefly and to the point; yet, as coming from the Chief of the Chemical Warfare Service, and therefore of a more strictly expert character than that of the others, the detailed testimony of Brigadier-General Amos A. Fries should be even more authoritative and conclusive.

Believing that it should be studied by the trade and passed along to the layman, The REPORTER therefore offers this week the first instalment of this expert testimony. The scene is the Senate Office Building during a hearing of the Finance Committee, and the Senators present are: Penrose (chairman), McCumber, Smoot, LaFollette, Dillingham, McLean, Curtis, Watson, Calder, Simmons and Walsh.

The testimony follows:

General Fries—Mr. Chairman, and other members of the Senate Finance Committee, I have here a chart that was drawn up about a year ago—

Senator Watson—Give your name, please, and your experience in this matter.

Fries—Amos A. Fries, Brigadier-General, Chief of the Chemical Warfare Service.

Watson—When did you become Chief of the Chemical Warfare Division?

Fries—I became Chief of the Chemical Warfare Service in France on or about August 17, 1917, and continued as Chief of the Service in France throughout the war.

Watson—Chief of the Chemical Service in France throughout the entire war?

Fries—Yes, sir; returning to the United States just before Christmas in 1918.

Watson—What have you been doing since?

Fries—I have been on duty with the Chemical Warfare Service since; partly in Washington and partly in command of Edgewood Arsenal, and, since March 1, 1920, Chief of the Chemical Warfare Service of the United States Army.

Watson—When was the Chemical Warfare Service established in connection with the Army?

Fries—It was established in France definitely on September 3, 1917. I was put in charge a couple of weeks before that.

Watson—And before that there had been no such thing in connection with the American Army, had there?

Fries—There had not.

As I started to say before, I have a chart here which was drawn up a year ago to show the relation between war gas and dyes, explosives, and pharmaceuticals or medicine. It was drawn up for an exhibit in New York City, but serves admirably the purpose of illustrating why the War Department is interested in the coal-tar industry.

As you know, from coking coal or making illuminating gas you get coal tar, and you distil that and get these crudes, of which we give only five here, there being five others.

Senator Dillingham—General, I suggest that your chart will not appear in the record.

Watson—Name them, please.

Fries—Benzine, toluene, xylene, phenol, naphthalene, and five others. These are put on here because they show clearly what are essential, and the others were omitted because they would have complicated the chart.

All of our war high explosives, most of our war gases, many of our most important medicines and our photographic chemicals, all of which are essential in war, come either directly from these coal-tar crudes or in combination with other chemicals. For instance, trinitrotoluol, which is the only explosive now used in war by any nation, so far as they have a sufficient quantity of it, is made from the crude toluene. Before that it was all picric acid, or some compound of it, which comes from the phenol carbolic acid by nitrating.

We have shown here how these crudes are made into dyes. Toluene is made into dyes and made into high explosives, and the picric acid in the same way, and also into medicines. We have shown only one group here, acetanilid; but there are a number of groups coming from benzine and aniline dyes, also from carbolic acid.

We make chloro-picrin directly from the bleach, itself made with chlorine and lime, and from the picric acid, and it is one of the most important war gases that we have.

Phosgene is another one of our most important war gases The Germans learned how to make it and use it. They knew how to make it, because they used it directly in making dyes, and it is so used in this country now. We have sold a good deal of our surplus phosgene to dye makers.

In that connection, the first phosgene that was made here was made in a chemical plant at Niagara Falls. They had about the only information, outside of Frank Hemingway, who was engaged in chemical production in New Jersey.

Senator Smoot—To whom do you refer when you say "we"?

Fries—The Chemical Warfare Service.

Smoot—The Chemical Warfare Service got up this diagram?

Fries—Yes, sir.

Smoot—From what Germany was already doing?

Fries—Well, from what Germany was doing and also what we had done, and to show, also, what we were going to have to do in the future if we keep prepared on this question.

From the phosgene dyes were made, such as yellows, violets, blues, and in that way, while it was not itself a coal-tar product, it entered right into the manufacture of dyes.

We are interested in the medicine side of this question tremendously, and in photographic chemicals as well as the dyes; but the dyes are the most important in a commercial way. Hence if that is kept up, the others rather follow. In fact, the development of the medicinal parts of these coal-tar products followed the development of dyes, even in Germany.

Before the war, according to the Tariff Commission's report of 1915, *there were only seven concerns engaged in making dyes in this country. In the* 1920 *report, after six years of total embargo, there are shown* 82.

Senator Curtis—Right there: The seven to which you refer were making a very limited number of dyes?

Fries—A very limited number; and they were using a great deal of intermediates, which is the next step after the crudes, and also the crudes which they imported from Germany. We had a very small coal-tar industry, although we had millions of pounds going to waste in the old-fashioned coke ovens.

When the war came on the United States could not get enough high explosives and toluene. It could not manufacture any war gases, scarcely, until it began to build its own plans. The Chemical Warfare Service started in with the hope of getting the chemical plants to make these war gases. Their plants were not large enough. They were already overburdened with war orders and, notwithstanding that they had been increasing some of their facilities for the two years that they had been working for the Allies on some of those things, the Government had to build tremendous factories throughout the country. Even then, as I said before, some of our very first phosgene was made in the chemical works at Niagara Falls and in another at Bound Brook, N. J., the Frank Hemingway Company. The chloro-picrin was manufactured in a concern at Stamford, Conn.; and while the Don Chemical Works made some of our first mustard gas. Even in those cases the Government had to help build additional plants

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in those places. Those plants not being able to meet the needs, the Government started in and built some other plants, notably one at Edgewood Arsenal, which we now have in condition for use, at a cost of $35,000,000, for Edgewood, while others costing many millions more. At the same time the Ordnance Department built tremendous plants.

Watson—Where is that $35,000,000 plant?

Fries—Twenty miles beyond Baltimore, on the Pennsylvania Railroad.

Watson—Is it still operating?

Fries—We are operating the research part of it, which is the only thing we can operate.

Smoot—You cannot dispose of your products, and the Government does not want them to-day?

Fries—We could make a lot of products which we could dispose of, but it is not the Government's intention to engage in business. We could make chlorine and bleach, and even phosgene, for sale.

Senator Calder—Is it the War Department's desire to maintain and retain that plant?

Fries—It is, until such time as we have so completely developed the coal-tar industry that we can afford to abandon it. As a matter of fact, to-day we would have to depend on that plant for a large part of our war gases, because we have not the plants throughout the country and the trained personnel to do it, and, even then, if we started those plants we would have to call on the coal-tar industry and other chemical industries for probably three or four or five hundred chemists and chemical workers and chemical operators to put that plant into operation.

Watson—How many expert chemists have you now in connection with the Chemical Warfare Service?

Fries—We have about 150 or 160, but they are almost entirely on research and development. We are doing those things which we cannot get any college or research institutions to do. There are certain researches and developments in connection with poisonous gases that the colleges and other institutions do not want to take up.

Smoot—Do I understand that the Government made these researches and provided them so that these necessary war materials could be manufactured in this country?

Fries—A considerable part of them. We sent a good deal of it over from France. We had very little information here. One of the most important duties I had, as Chief of the Chemical Warfare Service in France, in the early days was to get this information and transmit it over by officers and men, which we did in many cases, or by letter to the United States. They got much additional information on phosgene in addition to that which they got in the Oldbury Chemical Works and the Frank Hemingway Chemical Works.

Smoot—Did the information come here through the Government?

Fries—Not all of it. Part of our information on the manufacture of chloro-picrin came from private parties; and as to the phosgene part of it, the very first that we got came from the Oldbury Chemical Works at Niagara Falls. Mr. Lidbury, in particular, took an interest in it, and also Frank Hemingway, at Bound Brook, N. J. The Government added to it just as soon as we could get the information, because it was not existing in this country in sufficient amount to do this work.

We were also short, in France, of personnel. We could not get trained chemists enough for field use. We have a great deal of use for chemists right out in the field.

One instance illustrates that clearly. In the fight in which the Marines were engaged at Belleau Woods, a report came back to Corps Headquarters that the Germans were using a new gas, and they did not know just what to do. One of the ablest men I had, a chemist, was sent there and rushed into the thickest of the fight, clear through the area, and was able to report to them that it was no new gas; that it was the same gas they had been used to and that our

gas masks were a protection against it.

That information was of very great importance to that command, and the whole division operating around there. We will need more men of that kind in a future war. We could not get enough of them in France.

Watson—How many poisonous gases did you send abroad during the war that were made in America?

Fries—We sent four or five. Of course, chlorine was sent abroad. It was used as a poisonous gas in cloud gas, but now it is not really considered a poisonous gas, being much less poisonous than many others. We sent abroad some mustard gas, a great deal of chloro-picrin and a great deal of phosgene.

Watson—Had any of those been made in the United States before the war?

Fries—Not at all. There was a little experimental work in the laboratories with phosgene.

Senator LaFollette—To what extent had it been made outside of this country before the war?

Fries—Phosgene had been made to a considerable extent in Germany.

LaFollette—How about the others that you named?

Fries—I do not think chloro-picrin had been made to any extent at all. Mustard gas had not.

It is interesting in connection with the dye question to note that the Germans used one of the ingredients that they finally made mustard gas from in photographic chemical work, allied with the coal-tar products, and were able to make mustard gas rather quickly, after they decided to make it, by a method which has been known since 1886. We could not make it by that method, and never did, because we had not developed that part of our photographic or coal-tar industry. So we had to introduce an entirely new method developed chemically by Professor William A. Pope, of England, who first worked it up, and it was later perfected by Levinstein, a dye manufacturer of England. The process that we are now using is practically the latter's.

The result was that through our not having that information, which the Germans had in making these products for dyes and photographic chemicals, it was eleven and a half months after the Germans began using mustard gas before we could fire back at them. It is probable that had we had the coal-tar industry developed we would have saved several months and a good many lives.

(To Be Continued.)

The DeGise Silk Dyeing Company, 44 Seventh Avenue, Paterson, N. J., awarded a contract to the William S. Platt Construction Company, 152 Market Street, for the erection of a one-story addition to its dyehouse, 50 x150 feet, at East Fifteenth Street and Seventh Avenue, to cost about $15,000.

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VISIT "THE REPORTER" AT THE TEXTILE SHOW

The REPORTER will occupy Booth No. 646 at the International Textile Exposition now open in Boston, and again extends a cordial invitation to its friends, as well as all those who would be its friends, to pay us a visit and get acquainted. As at the Chemical Show in New York, the "exhibit" will consist principally of some chairs and a smile of welcome, but the welcome will be sincere and the chairs fairly comfortable—which should hold out certain inducements to those weary from circulating around through the aisles.

We shall be glad to have you take advantage of such hospitality as we may be able to offer, and to give you any service or information within our power.

UNCLE SAM'S EXHIBIT

Attention is again called to the exhibit of the Bureau of Foreign and Domestic Commerce at the International Textile Exposition. This Bureau is the one agency designated by Congress to aid in the promotion of the export trade of the United States. This it does by collecting information in the different foreign trading centers through 600 trained investigators, and distributing this information to business men in the United States.

There are being displayed in its booth samples of cotton cloths collected in the different world's markets by Trade Commissioners and Attaches of the Bureau of Foreign and Domestic Commerce. Particularly interesting are cotton cloths collected throughout the Far East, mainly in India and Japan. There are also samples of German and Austrian paper clothing. This exhibit consists of several complete suits for men, aprons and other wearing apparel for women, et cetera.

Those in charge will be pleased to display the different monographs which the Bureau's investigators have written on markets for cotton goods, and have on file, at the Exposition, the very latest information on the state of markets abroad.

There are present at the Bureau's booth Edward T. Pickard, chief of the newly organized Textile Division; Walter H. Rastall, chief of the Machinery Division; Rubin Lundquist, chief of the Electrical Division, and Henry Chalmers, chief of the Foreign Tariff Division. Leonard B. Gary and members of his staff from the New England District Office also are present. Should visitors desire personal interviews with any of commodity chiefs attending the Convention, appointments will be made.

A PROPHECY COMES HOME

Evidences of the interest with which The REPORTER's interview with Sir William Alexander was received upon its appearance last week were not long in manifesting themselves. The fact that his words proceeded from the representative of a nation which has most happily solved its dyestuff legislation problem, considered with the extreme acuteness of the situation here and the additional fact that Sir William was formerly Director of the British Administration of National Explosives Factories and is at present Chairman of the British Dyestuffs Corporation, Ltd., all combined to give this article a significance, a timeliness and a weight which at once captured the attention of the trade; and letters of approval and agreement with those words have been received

not only from dye manufacturers but, better still, from dye users also.

No small portion of the interest centered around Sir William's suggestion that an estimation of the effective dyestuffs manufactured in the several allied countries be made, and that the dyes which are not so manufactured be purchased from Germany and the proceeds applied to the latter's reparation responsibilities. It is well that this suggestion should be accorded rather more than a passing thought, for it is not the first time it has been made, nor was its appearance last week the first time it ever found its way into these pages.

In fact, it stands forth somewhat in the guise of an old friend returning from foreign lands, for it is practically identical with the proposal of an International Dyestuff Conference made in 1919 by H. Gardner McKerrow, of the National Aniline & Chemical Company, who was in England at the time. Upon that occasion it was deemed of sufficient importance by Consul General Skinner to form the subject of a cable to the U. S. Bureau of Foreign and Domestic Commerce, and soon thereafter it was briefly outlined in The REPORTER of August 4, 1919, in an editorial entitled "A Prophet Abroad."

Sir William introduces this suggestion by emphasizing the fact that the dye industry must depend for its prosperity on the prosperity of the textile trade. Having, therefore, common interests, the closest co-operation and sympathy should be encouraged between them. He goes on to say that these industries together should proceed to settle on a schedule of dyes which the dyestuff makers in America and England can produce, and buy them. Then select and secure as reparation, at the lowest figures possible under reparation conditions, those dyes which we do not yet "know how" to produce and use them to fill up the gaps. The quantity at call under the protocol of the treaty which permits selection by Great Britain

TELL THE TRUTH!

American Chemists and Manufacturers are entirely competent to shape their own destiny if afforded proper support and encouragement, without building a Chinese wall around themselves.

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should, he declares, place the dyestuff consumers on advantageous terms.

Mr. McKerrow, it will be recalled, suggested that three men, consisting of a dye maker, a dye user and an impartial business man respectively. be sent from America, England, France, Italy and Switzerland to meet at some central place, there to determine the kind, quantity and price of dyes to be taken from Germany, and to deal with other problems arising from German dye importations. He further suggested that these nations favor one another in such a way that a given color would be sought first at home; then, if unobtainable, from one of the other four, and only as a last resort purchased from Germany in case it was still not forthcoming. Finally, he stated that such a plan should be administered with a view to avoiding undue competition with the respective domestic interests of the constituent countries, that the conference of delegations should be "exclusively recommendatory" in its operations, and that in no case should the executive or fiscal policies of the constituent countries, such as licensing systems or limited embargoes, be interfered with.

The REPORTER has encountered few who will dispute the assertion that Mr. McKerrow performed a genuine service for the American dye industry when, nearly four years ago, he took the initiative in calling together the New York conference which brought about the organization of the manufacturers into a unit. Having recalled this much of our comment made at the time of his London suggestion. we take pleasure in repeating and reaffirming the following, quoted directly from the editorial "A Prophet Abroad":

"Mr. McKerrow is a pioneer. Not only has he plenty of vision, but likewise plenty of energy for turning ideas into deeds. . . . Moreover, all his efforts in behalf of the American dye industry have been sincere and constructive, and he deserves far more credit at the hands of the industry than he has sometimes received."

There would necessarily be a great deal of detail to be worked out on this international conference suggestion before it could be made effective. That is as true to-day as it was then; yet all the same, it really looks as though Mr. McKerrow had anticipated the trend of dyestuff affairs rather neatly, being about two years ahead of the times when he first proposed it. Considerable progress in the manufacture of dyes has been made in both this country and England since then, and any arrangement of this kind would have to be a self-adjusting method which could readily adapt itself to changing conditions. It is significant to note, however, that the thought brought forward at that time is to-day again being discussed, and with approval, by so well-known authority as Sir William Alexander.

It is Sir William, this time, who is the "prophet abroad," and we should like to see him follow Mr. McKerrow's example by submitting his proposal to our own Government. The plan might prove highly efficacious in doing away with some of the bitter strife which has marked the effort to secure adequate protective legislation here. Its merits are sufficiently obvious to warrant, at the very least, its investigation by a Congressional committee.

Further, it could quite properly become a subject for discussion at the approaching Limitation of Armament Conference, and in the event of the "teeth" being removed from the proposed limited embargo law during the latter's dizzy and perilous passage through the Senate, might well become the means by which the American industry could be saved from extinction at the hands of the Cartel.

Under the laws of New Jersey the Liberty Fur Dyeing Company has been incorporated to buy, sell, export, trade and deal in any and all kinds of furs. Headquarters of the new enterprise will be in Newark, and the capital is $10,000.

ANSBACHER STARTS MOBILIZATION OF "BUDGET GUARD" AMONG NEW YORK'S CHEMICAL AND DYE TRADES

David A. Ansbacher, of J. A. Ansbacher & Co., has been appointed commander of the Chemical and Dyestuff Division in the mobilization of New York business men in the "Budget Guard" being organized by the National Budget Committee, of 7 West Eighth Street, under direction of Sam A. Lewisohn, well-known banker and city chairman, to support the movement for national economy and lower taxes.

In assuming leadership of the chemical trade division Mr. Ansbacher said:

"Like every other business in the country, chemical and dye houses feel the heavy burden of taxation, and I believe the movement for economy and business administration of Government expenditures as inaugurated by General Dawes is as important as any single civic enterprise in the country today. Every business man in the city owes it to himself and his business, if not from a standpoint of civic duty, to help support the economy program to the utmost of his ability.

"The 'Budget Guard' movement is sound in principle and effective in method. Adhering strictly to the principle of economy, it is one in which every business man may co-operate, because it does not waste either the busy man's time or his money. One hour a week—the noon-day luncheon hour—is all that is required. Every man must take time from his business for luncheon, and it is then that we will economize, even on time, by discussing this important question. Every taxpayer who is interested in reducing the tax burden is invited to join the 'Budget Guard' movement."

Mobilization of the "Budget Guard" among New York's trades and industries is part of the National Budget Committee's nation-wide movement to create popular support for the efforts of Gen. Charles G. Dawes to put the administration of Federal expenditures on a business basis under the recently adopted budget system.

Among the prominent members of the budget committee, of which John T. Pratt is chairman, are: Chief Justice William H. Taft, Henry L. Stimson, Benjamin Strong, William M. Chadbourne, R. C. Leffingwell, Henry P. Davison, Alton B. Parker, Samuel McCune Lindsay, Dr. Nicholas Murray Butler, Paul M. Warburg, William Hamlin Childs, Manny Strauss, R. Fulton Cutting, Joseph P. Cotton and Adolph Lewisohn.

U. S. COMMERCE BUREAU TO STUDY GERMAN DYE INDUSTRY

The newly reorganized Berlin office of the Bureau of Foreign and Domestic Commerce will devote particular attention to the textile, dye and chemical industries of Germany as they affect American importers and exporters.

Charles E. Herring, who, upon a formal proclamation of peace with Germany, will present credentials as American commercial attache at Berlin, arrived at his post last week. Mr. Herring was formerly first assistant director of the bureau.

Among the assistant trade commissioners who will aid Mr. Herring are O. S. Payne, former European repre-

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sentative of the National Aniline & Chemical Company, Donald Breed and E. M. Zeickel, who was associated previously with the New York district office of the Bureau of Foreign and Domestic Commerce.

Mr. Payne has already begun an extensive survey of the dye and chemical industry of Germany. This investigation is planned to be the most exhaustive and thorough ever attempted in the history of the German dye industry, and is being anticipated with much interest by commercial representatives in this country.

CLEVELAND TWIST DRILL HOUSE ORGAN ABLY DEFENDS DYE INDUSTRY

One would hardly look for an article on the importance of the dye industry to national defense in the house organ of a manufacturer of twist drills. Nevertheless, P. C. Handerson, editor of "Drill Chips," the clever little monthly publication issued by the Cleveland Twist Drill Company, thought the subject of sufficient importance to preach a most effective editorial sermon about it in a recent number under the title, "The Dye Industry and Its Future."

In reproducing it for REPORTER readers, we would compliment Mr. Handerson on the clarity and force of the statements, intended for the lay reader, to be found therein, and upon the strong presentation of the subject. It should straighten out a lot of his readers who have doubtless wondered from time to time what the dye controversy "was all about," win many converts over from the ranks of the misguided, and secure the thoughtful attention of many more who have never considered the subject at all.

The appearance of this article in a publication devoted to an industry so widely separated from the dye industry well illustrates the growing tendency of all manufacturers rightly to regard this subject as a national issue—as something far more than the gain or loss of a single trade, important though it is to the textile people—and we hope this excellent and encouraging example will be largely emulated by others.

The more light shed upon this key industry, which does not fear publicity for any of its operations, the better for the country.

The article follows:

War stories at the present time are usually about as welcome as ants in the ice box. All of us have had our fill of war, war articles and "such like." But we are going to risk it and take a chance of the disapproval of some readers of "Drill Chips," for we really believe that this little story should be of interest to every man or woman who calls himself or herself an American.

The art of warfare—I don't know why they call it an art, nothing very artistic about it—is as old as the race itself. Way back in the age when our forefathers climbed down out of the trees and decided that tails were no longer in style, warfare consisted of throwing a brick at the enemy or hitting him with a club.

Later some one found that a spear was more deadly than a brick and some knife manufacturer discovered that a sword made a much neater job than a club, but still it was necessary to hit your opponent in order to get rid of him.

The art slowly progressed. I think it was our old friend J. Caesar who tells about the invention of a catapult or machine for throwing good-sized rocks at the enemy. And let's not overlook the bow and arrow, which is an art even more elderly than the catapult. Thus it went for many centuries. Warfare consisted of 90 per cent hand to hand work and 10 per cent of shooting, at perhaps fifty or a hundred yards.

And along about 1345 or 1346 an old monk found that gunpowder, when properly ignited, gave vent to a pretty good-sized noise. Along about that time the French and English were having one of their then customary little scraps and the new invention was tried out at the battle of Crecy in 1346. The results were very good, inasmuch as the noise upset the equanimity of the horses

considerably, and leave it to a horse to upset his rider when he—that is, the horse—is upset. As a result a few thousand brave knights were ingloriously dumped on the ground, and there they lay, not being able to stand up, wrapped as they were in cast-iron breastplates and helmets. No wonder gunpowder was voted a great success.

A little later it was discovered that this same gunpowder, when properly inclosed and ignited, would throw things around considerably, in addition to being a good noise maker. Hence we have the cannon and rifle of to-day.

And there the art of warfare remained for some four or five hundred years. To be sure, improvements were made in the rifles, guns and explosives but the basic idea was the same. We still thought the only way to kill a man was to hit him with something, whether it be a brick or a bullet.

And thus the present war opened, a 100 per cent explosive war. But one day a German chemist broke away from all lines of reasoning and made the astounding statement that it was not necessary to strike a human being with a projectile in order to kill him. You could strangle him with poison gases. To be sure, this method of warfare was barred by the Hague Conference of 1899, but that agreement was only another "scrap of paper."

As a result, warfare was revolutionized on the morning of April 22, 1915, when the Germans sent over a cloud of chlorine gas on the Allied trenches and wiped out whole regiments. Military authorities state that if the Germans had followed up the advantage won that day, they could have reached the sea. But fortunately they did not realize the damage which had been done and thirty-six hours later British chemists had rushed improvised gas masks to their troops and the line was saved.

You know the remainder of the story, how gas after gas was tried, how gas mask after gas mask was invented—the best of them hellish contrivances—and how we, in turn, turned out some powerful gases. More of this later.

But what has all this got to do with the dye industry? A great deal. In 1912 Germany practically controlled the dye industry of the world. To be sure, some of our chemical companies were turning out a few dyes; but it was a hard battle to fight with the German trust.

When the war broke out, Germany shut off our supply of dyes and also a great many drugs, such as aspirin, which we had been importing. Remember how sore we were when our black socks turned gray in the first washing and how our shirts took on outlandish hues after a few wearings? Well, that was all part of a preconceived plan. Germany knew our dye industry was weak and could not supply the country. She also knew that you and I would complain bitterly and she hoped our State Department would take this up and bring such pressure to bear on the English that they would lift the blockade. Things didn't work out that way, but you will admit it was a good plan.

So we set about building up a dye industry and it was a hard struggle. The Germans had been developing this industry for forty years and had invested $500,000,000 in it. One German factory alone turned out some 11,000 different colors. We were mere babes in arms but we made wonderful headway.

The dye industry is essentially one of organic chemistry, in which we as a nation have only dabbled but which takes years of thought and experience to even approach mastering. We had comparatively few men thoroughly trained in this branch and our first efforts were most wasteful. However, we had the natural resources and soon very definite progress was made; in fact, so much progress that we soon lost our distrust for the more common American dyes.

Then we entered the war. Overnight our dye factories became gas factories. The relation between the two branches is very close. Just as an example, from nitrogen, which comes from the air, we can obtain by different processes anaesthetic, an explosive, a war gas and a smokeless powder.

Here indeed is a peaceful industry which may, overnight, become a great source of strength in war and this same peaceful dye industry performed heroic service for this country.

Now the proposition arises: shall we disregard this industry and return to a state of unpreparedness as far as the manufacture of dyes or poisonous gases is concerned?

We have our great man power, our ammunition factories, our small arms factories and plants producing large guns. We are prepared for future wars—if such be the will of the Omnipotent—in this respect.

And yet:

We are only 45 per cent prepared. "How so?" you say. It is estimated that at the end of the recent war 55 per cent of the shells going over were gas shells, to say nothing of the immense amount of gas discharged by other means.

Give Germany her dye works, or in other words, her gas factories, and take every gun away from her and she is still 55 per cent armed.

Give us our guns, ammunition, etc., but without gas we are only 45 per cent armed. And yet we propose to throw away this 55 per cent of our strength, the dye or poisonous gas industry.

England and France have seen the writing on the wall. They have legislation which provides that all German dyes shall be totally excluded from their respective countries except such as may be licensed for importation, and they license only those which cannot be obtained by British makers. As a result, any British dye user can obtain any dye he needs, because if it is not made in Great Britain it can be imported.

But why is it necessary to protect our dye industry? Can they not compete with the foreign manufacturers? They cannot and here are some of the reasons:

The German mark is worth less than 1 cent in this country but this same mark will buy 10 or 20 cents' worth of goods or labor in Germany.

Germany has a dye industry equipped to supply the whole world, and this trust cannot be run at a profit unless it does supply the whole world. Some half a billion dollars has been invested in this industry in Germany and that amount is sufficient for them to put up a real trade fight in order not to lose their investment. The Germans have the necessary experience and skill which we lack. England and France have excluded their products and the United States is still open.

If they cannot dump their dyes in this country, their huge investment will be greatly depreciated; they lose their best exporting and most lucrative industry and see grow up in the world some two or three opposing chemical industries which automatically, with our revised ideas of warfare, make two or three great opposing powers.

What we need at the present time is legislation protecting this infant industry similar to that in vogue at present in England and France. For here is an industry that is both useful in times of peace and essential in war, and yet so young and at such a disadvantage at the present time that a few shiploads of German dyes marketed in the United States at fighting prices, prices if need be even below the German cost of production, would wipe it out in a few months. And the Germans would use these fighting tactics, for once the American dye industry is wiped out, they would have the vast market of the United States to themselves.

Every person who considers himself or herself a true American should give careful consideration to this proposition. Are we as a nation going to subscribe to a ruthless German trade invasion which would exterminate our dye industry and wipe out one of our great natural sources of wealth and national defense?

Two years ago the House of Representatives passed the Longworth bill providing adequate protection for the dye industry. The bill was unanimously reported in an improved form by the Senate Finance Committee but languished in the Senate because of a filibuster. If this bill is not passed, industries are as certain to be destroyed as it

is certain that death and taxes get us all.

The only objection is the necessarily greater cost of American production, but when you stop to think that the dye in your new suit (if you have one) costs only about 32 cents and in your socks about one-tenth of one cent, you can see that this item will never be noticed.

We see great discussions in our dailies, weeklies and monthlies concerning the battleship versus the aeroplane. We are interested. And yet an industry which produces a liquid so powerful that three drops on any portion of the human skin causes death is overlooked. We think with pride of the great fourteen-inch shells on our battleships. That shell travels its course, explodes, does its damage and that is the end of it.

And yet an ounce of a certain innocent looking white powder will continue its dire work for weeks, going around corners and through the smallest cracks.

What we need is a sense of proportion in order to learn the lessons of the World War and to prepare ourselves if ever such another catastrophe breaks upon the world.

SULFINDONE BLUE B CONC. ANNOUNCED BY NATIONAL

An important announcement to all cotton dyers is made by the National Aniline & Chemical Company, Inc., in the introduction of a new Sulphur Blue yielding indigo shades.

This new dye is offered to the trade as National Sulfindone Blue B Conc. It produces brilliant indigo-blue tones and, because of its high concentration, excellent solubility and leveling properties, it will prove of unusual value for raw stock, yarn or piece dyeing.

This new "National" product possesses a particular and practical advantage in the fact that all types of raw stock, warp, and cop-dyeing machines may be employed in its application.

It possesses excellent fastness to washing, hot pressing, perspiration and stoving, and good fastness to light, cross-dyeing and fulling.

Inquiries regarding the merits of this new product are invited by the "National." The various sales offices of the Company are prepared to submit product samples and dyeings upon request.

"AMERICAN DYED COTTONS WORLD'S STANDARD OF FASTNESS"—M. R. POUCHER

Morris R. Poucher, director of sales of the Du Pont dye works, in answer to a series of questions with reference to the fastness of American dyes on cottons, has made the following statement to the "Daily News Record": "Any manufacturer of cotton goods who desires to make fabrics fast to light and to washing, can do so and have a very broad range of colors, and he need not use any but American dyes. As a matter of fact, American dyed cottons are the world's standard of fastness. There are low-priced American shirtings and ginghams that are actually faster than the finest imported cottons. The word 'imported' has a magic influence on our public which causes them to forget, not only the excellence of our own textures, but the fact that some foreign high-priced cotton goods fade. Let me get down to detailed particulars.

"Where fastness to light and washing is very important, I suggest the vat dyes for several light shades, directing, however, careful attention to the fact that the term vat dyes refers not to a chemical formula, but to a method of applying the dyes to fabrics. All vat dyes are not made by the same chemical processes and when I refer in this interview to vat dyes I mean those developed from anthracene. We make other dyes that are generally called vat dyes, but we do not refer to any dyes as vat dyes except our ponsol range, which is developed from anthracene. Yellows, light blues, greens, lavenders and violets can be obtained with vat colors, equal in fastness, and in every other particular to the old German dyes. These shades can be produced from

American vats and the Du Pont company is not the only maker of good vat dyes either. We have serious competitors. For the brown shades either sulphur colors or the vegetable cutch of India give entirely satisfactory results. For navies indigo or sulphur blue can be used with perfect results. For oranges, reds, clarets and some navies the naphthanil bases are at the present time the best colors developed in America and equal in fastness to the vat dyes. These latter chemicals are the latest development in scientific dyes.

NEW DYE PREPARATION ON SILK OR WOOL LEAVES COTTON LACE INSERTION WHITE

A British patent, No. 164,178, 1921, claims that a dye preparation capable of dyeing silk or wool garments and leaving cotton lace insertion white, is made as follows: Water, six quarts; dyestuffs up to 10 per cent. acetic, tartaric, citric or formic acid up to 58 per cent, gelatine 20 lms. The whole is heated on a water bath, the acid being added after the coloring matter and gelatine are dissolved. The mass may be run into moulds and cut up when dry. The gelaine acts as a resist to prevent any dyeing or staining of the insertion lace. The dyestuffs must be capable of application in a weak acid bath with gelatine. Xylene Red B, Xylene Blue AS, Keton Green, Keton Fast Violet 10B, Acid Grange 11, Acid Violet BN, are suggested.

Bosson & Lane

Manufacturing Chemists

High Grade Sulphonated and Saponified

CASTOR OIL PRODUCTS

Works and Office, Atlantic, Mass.

Dye-a-Grams

"The Dye Situation in Canada"—*Reporter headline.* In just about the same chaotic condition as it is in the U. S. A.

—o—

No doubt there *is* room at the top for Brains. Needless to remark, however, Brains are an asset at the bottom.

—o—

"1922 Spring Color Card Shows 80 Shades"—*Reporter headline.* Tut, tut, Ed.! Tints? Hues? Tones? Or Colors? Suggest you get in touch with Mr. Low before speaking of "shades" again!

—o—

Generally, when a man is "tight" his morals are loose.

—o—

"The Monopoly Phantom"—*Reporter headline.* Anything 100 per cent American is liable to be called a monopoly. But never a phantom!

—o—

Fast "flivving" does away with more lives these days than fast living!

—o—

Reading something or other about Success the other day, we learned that it brings poise. Mebbe so, mebbe so—and very often avoirdupois!

—o—

The man who knows but little and the man who knows it all both reach the jumping-off place about the same time. G. E. T.

The Pawtucket Valley Dyeing Company, Phenix, R. I., will break ground at once for the erection of its proposed new one-story dyehouse addition, estimated to cost about $75,000.

The Pyro Color Corporation, a Virginia corporation, has filed notice of organization to operate in New York, with a capital of $1,250,000, for the manufacture of colors, dyes, chemicals, etc. H. L. Gray, 503 East Eighty-eighth Street, New York City, represents the company.

Calco

Particular Dyers —

Particular Dyers demand certain standards in their raw materials—***every time.*** That is why ***Calco*** is demanded. For, it has always been a cardinal principle that with every product offered quality must be linked with uniformity, every barrel the same.

For Instance—Calco Aniline Oil

Calco is known as a leading manufacturer of Aniline Oil. It is accepted as standard for the production of fast, brilliant blacks on cotton hosiery, yarn and piece goods, and in cotton and silk printing. At the Bound Brook Plant there are several entire buildings set aside for its production.

Calco Aniline Oil cannot fail to meet the most exacting requirements and we have no hesitation in recommending this product to the dyer who wants exceptional results.

A sample will be sent upon request

THE CALCO CHEMICAL COMPANY
Bound Brook N. J.
New York Boston Philadelphia Chicago

"National" Dyes and the Textile Exposition

The National Aniline and Chemical Co., Inc., offers to the textile industry in its exhibit at the International Textile Exposition at Boston, a fair and accurate record of its position in the dyestuff industry at the present time.

It believes that this record justifies the confidence and support of those industries whose welfare is so indissolubly identified with the establishment and preservation of this essential addition to the industrial life of America.

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